POSTER SESSIONS OF NETL UBC AND SCR/SNCR CONFERENCES

USE OF ROFA AND ROTAMIX SYSTEMS TO REDUCE NOX IN COAL BURNING POWER PLANTS

John Ralston, Presenter

Vice President, Mobotec USA, P.O. Box 3442, Kingsport, TN 37664; (T) 423-288-6504; (F) 423-288-8952; **jralston@mobotecusa.com**

Edwin Haddad, Co-Author

Vice President, Mobotec USA, 8 McCarthy Circle, Framingham, MA 01702; (T) 508-872-1610; (F) 508-879-4216; **ehaddad@mobotecusa.com**

Summary

The Mobotec NOx reduction systems, ROFA (Rotating Opposed Fire Air) and Rotamix (ROTAting MIXing) have been installed on Unit 5 at the Cape Fear Generating Plant operated by Carolina Power & Light, a division of Progress Energy Company. The ROFA system was installed on Unit 5 in 2000 and the Rotamix system was installed in 2002. The ROFA and Rotamix systems were installed on Unit 6 at the Cape Fear Generating Plant in 2001. Both of these units are CE, t-fired boilers burning pulverized coal.

The ROFA system reduces NOx by improving combustion. This improvement in combustion is achieved by the injection of high velocity air into the boiler at predetermined points to create great turbulence in the boiler and better mixing of the fuel and air. The Rotamix system works in conjunction with the ROFA system and injects ammonia or urea into the boiler using the same high velocity air as used in the ROFA system. The combination of the ROFA and Rotamix systems will reduce NOx in the range of 75%.

The posters presentation will show the NOx reduction results obtained when the ROFA and Rotamix systems were installed in these units. Also discussed will be the effect on CO, LOI and boiler efficiency. Information will also be available to show that the installation of ROFA eliminates the need to balance the coal supply to the burners. ROFA and Rotamix are currently being installed in thirteen additional boilers burning pulverized coal. These boilers vary in size from 44 MW to 570 MW. These boilers include t-fired, wall fired and opposed fired.